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Descriptions of new Genera and Species of Western SCARABÆIDÆ,  
with notes on others already known.

BY GEO. H. HORN, M. D.

**PHÆOCHROUS**, Casteln.

**P? Behrensi**, elongate-oval, blackish-brown, moderately convex and shining. Head paler in front, densely and coarsely punctured. Thorax twice broader than long, narrowed in front, above moderately convex, sparsely punctured, anteriorly emarginate, sides margined, moderately rounded, base sinuate, angles obtuse. Elytra oval, convex, margin slightly thickened, above striate, with striæ coarsely and closely punctured, interstices slightly convex, with a single row of minute punctures. Body beneath paler, scarcely punctured. Femora thickened; anterior tibiæ crenulate and with three large teeth on the outer edge; middle and posterior tibiæ thickened at tip, obliquely truncate, and with rows of spinose hairs. Length .4 inch. Breadth .22 inch.

I refer to *Phæochrous* Casteln. (*Silphodes* Westw.) an insect from California, (in the Cabinet of Henry Ulke, of Washington,) though not without suspicion, that it may constitute a distinct genus, differing from the descriptions of *Phæochrous* by such slight characters, that, without reference to specimens, I am unwilling to separate it.

The epistoma is broadly truncate, labrum very short, transverse, slightly emarginate. Mandibles projecting slightly beyond the labrum, giving the front a bilobed appearance. The antennæ are nearly as in *Phæochrous*, with the eighth joint very large and concave, almost entirely hiding the ninth and tenth joints, which are much shorter, and are spongy, except slightly corneous at base; scutellum moderate, apex rounded. The four hinder tibiæ are rather suddenly thickened at apex and obliquely truncate, and with three rows of spinous hairs. The tarsi are somewhat shorter than the tibiæ, the last joint longer, with strongly curved, equal claws.

The discovery of this insect in California is remarkable, as it affords an analogue of the *Hybosorus* of our Eastern States, itself being an emigrant from Europe. It is indeed possible that the insect just described may have been imported from the East Indies to California, as the commerce between the two countries has already assumed some magnitude. I have in my collection also a Cerambycide, found by Mr. Gabb, in the Coast Range south of San Francisco, undoubtedly identical with an Australian species, and with the knowledge of the introduction of this and other insects by transportation in ships, I have supposed that even *P? Behrensi* may be really a foreigner to our



shores. The species of *Phæochrous* live on decomposing animal substances, and it is possible that, like some *Dermestes*, it may have found lodgment aboard ship in material suitable for its subsistence.

I dedicate the species to Dr. Jas. Behrens, of San Francisco, in acknowledgement of the interest he has shown in the advancement of entomological science.

#### **DASYDERA, Lec.**

**D. Cooperi**, brassy-green; head densely and coarsely punctured, front sparsely clothed with erect yellow hairs; thorax subquadrate, sides moderately rounded, anterior margin truncate, posterior slightly rounded, with the angles rounded; above coarsely and densely punctured, with suberect yellow hairs and a slight longitudinal impression. Elytra testaceous, lateral margins converging strongly, contiguous along the first two-thirds of the suture, then dehiscent, apices moderately rounded, above clothed with short, black, recumbent, bristly hairs, arising from rather densely placed punctures. Beneath brassy-green; abdomen paler, clothed with yellowish hairs. Antennal club and tarsal claws testaceous. Length .40 inch.

Readily distinguishable from the other two species of this genus by the characters above given. The elytra extend to the suture between the last and penultimate abdominal segments. The lateral tooth of the anterior tibia is also well marked.

I dedicate this species to Dr. J. G. Cooper, of Santa Cruz, California, to whose liberality I am indebted for this and other valuable species. It is from near Sacramento, California.

#### **LICHNANTHE, Burm.**

**L. canina**, head obscure, brassy-green, coarsely and confluent punctured, clothed at the middle with yellow, and laterally with shorter black, suberect hairs. Thorax brassy-green, slightly broader than long, narrower anteriorly; sides very slightly rounded; apex truncate, base feebly rounded, posterior angles slightly elevated, above coarsely and densely punctured, with yellow erect hairs. Elytra dark testaceous, with two rows of paler spots; sides slightly convergent, contiguous along the anterior half of the suture, posteriorly strongly divergent, apices rounded, above finely and densely punctured with recumbent black hairs. Margin paler, with short yellow hairs. Beneath obscure brassy-green sparsely clothed with yellow hair; antennal club, tarsi and tip of abdomen obscure testaceous. Length .48 inch.

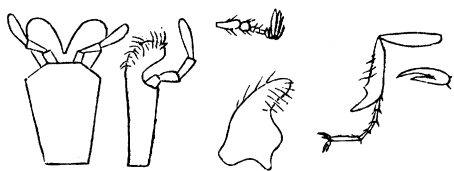
Readily distinguishable from our other species by the characters above given. The epistoma is also strongly margined on the sides. The front has two elevated lines continuous with the margin of the epistoma, which converge and meet on a line with the eyes. The portion of the head thus enclosed is brassy-green and clothed with yellow hairs, the remainder of the front is covered with shorter black hairs. The thorax is less coarsely punctured than the head, which appears to be almost wrinkled transversely.

The elytra are still more finely punctured, and though somewhat longer in this species than in *vulpina* and yet shorter than in *lupina*, they are also more divergent along the suture than in either of the preceding species. This species is, without doubt, identical with that mentioned by Doubleday as having occurred in Oregon, though probably considered by him as identical with *lupina*. Occurs near Fort Klamath, Oregon. For this interesting addition to our western fauna, I am indebted to Mr. Wm. M. Gabb, Palæontologist Cal. Geolog. Survey, whose kindness in placing his collection at my disposal, has already been acknowledged.

**ACRATUS**, nov. gen.

Head elongate, epistoma trapezoidal, narrower anteriorly, concealing the parts of mouth beneath, separated from the front by a sinuous impressed line, anterior edge margined and notched. Labrum small, transverse, not emarginate. Mandibles short, coriaceous on the inner margins and ciliate internally at apex. Maxillæ elongate, ciliate with curved spinous hairs at apex. Palpi long, last joint fusiform. Mentum trapezoidal, longer than broad, narrower behind, anterior angles rounded. Ligula distinct from the mentum, coriaceous and deeply bilobed. Palpi very small, last joint somewhat longer. Antennæ ten-jointed, first and second thick, third—seventh small, eighth—tenth forming a suboval mass. Abdomen six-jointed, joints, except the last, connate. Pygidium exposed. Tarsi slender, claws small and divided. Anterior tibiæ tridentate externally, with a small spine internally, middle and posterior tibiæ bispinose, the latter broad and triangular, and with one transverse ridge.

The accompanying wood-cuts represent magnified views of the parts of the mouth, an antenna, and an anterior leg and one of the tarsal



claws of *Acratus*. The parts have, however, been magnified in different degrees, as will be seen by a comparison of the mentum and the maxilla ad-

joining it. In nature the hairs at the tip of the maxilla are even more curved than represented. Both claws on all the feet are deeply cleft to within a third of the base, the inferior portion being a fourth shorter than the superior.

This genus recalls strikingly the characters of *Chnaunanthus* of the Sericoidini, and from the description, by which it is alone known to

me, resembles it even in specific characters. The connate ventral segments, however, forbid its entrance into the group, unless that character should have escaped notice in the genus above named. The antennæ are ten-jointed in the present genus and but nine-jointed in *Chnaunanthus*, though this would hardly warrant generic separation without the presence of other characters. I place the genus provisionally among the Oncerini of Leconte, although equally out of place by the presence of the anterior tibial spine. As in *Oncerus* and *Lasiopus* the abdomen is rather small and the segments connate. The position of the Oncerini among the Laparostict Melolonthidæ, seems somewhat objectionable, as the spiracles in *Oncerus* are placed "on the dorsal inflexed portion of the ventral segments," (Lec. *Synopsis Melolonthidæ*, Jour. Acad., 1856,) as in the genuine Melolonthidæ, while the connate abdominal segments of *Oncerus*, *Lasiopus* and *Acratus* is a character at variance with the Glaphyrini, to which the division of Laparostict Melolonthidæ of Leconte, for the most corresponds. These genera may form a sub-tribe of Melolonthidæ near the Sericoidini, in the position originally assigned them in the monograph above cited, or *Acratus* may be placed among the Chasmatopterides after *Chnaunanthus*.

**A. flavipennis**, black, slightly glossy; head black, rather coarsely and densely punctured, narrowed in front. Thorax black, broader than long, base and sides rounded, anteriorly emarginate, less densely punctured than the head; posterior and lateral margins ciliate with whitish hairs. Head and thorax with short suberect hair. Elytra yellow-testaceous, oval, sparsely punctured, and with a short yellow hair arising from each puncture. Mentum with a brush of yellow erect hair beneath. Feet yellowish. Length .15—.18 inch.

The under surface of the insect varies in color in different individuals, in some being entirely black, in others with the abdomen yellowish.

This insect is found in tolerable abundance in April, on the flowers of *Larrea mexicana*, on the sandy desert east of Antelope peak, and on the banks of the Gila River, Arizona.

#### **PLECTRODES**, nov. gen.

Head quadrate. Epistome broad, thickened in front, concave above, separated from the front by a slightly raised line. Labrum distinct, emarginate. Mandibles thick, obtuse, not prominent. Maxillæ short, with two or three obtuse teeth at apex. Palpi moderate, first joint small, last joint longer than second and third together, deeply channelled on its outer face. Mentum quadrate, concave, sides rounded. Ligula short, transverse, connate with the mentum, corneous. Palpi short, last joint rather larger. Antennæ ten-jointed, first joint equal

to half the scape, thicker; second joint transverse; third—seventh closely connate; eighth—tenth forming an oval mass. Anterior coxæ moderately prominent, prosternum not prolonged. Metathoracic parapleuræ moderate, epimera triangular. Segments of abdomen distinct, penultimate joint rather longer. Anterior tibiæ tridentate externally, with a spine on the inner side. Middle and posterior tibiæ with a transverse ridge terminating in a slight spine. Posterior femora thickened. Tarsi equal to the tibiæ. Claws dissimilar, the anterior claw armed with a long tooth from near the base, posterior claw with a short slightly emarginate tooth near the base. Penultimate dorsal and ventral segments connate. Spiracle placed on the middle of the line of the suture, and connected by a groove with the suture between the pygidium and propygidium.

Figures 1 and 2 represent respectively the maxilla and palpus and the claws of the tarsi of *Plectrodes*. In the first it will be seen that the palpus is longer than the maxilla, and with the first joint very



Figure 1.



Figure 2.

slender as compared with the others. The last joint is oval, slightly curved, and with the deep groove mentioned in the above diagnosis. The second is a representation of the tarsal claws of the right anterior tarsus, the claws are the same, however, on all the feet and in both sexes. The anterior claw is much larger and with a strong tooth, its outer face is also sulcate in the manner above indicated.

**P. pubescens**, light testaceous brown, slightly shining, robust, convex above; head coarsely and densely punctured, with short, yellow, suberect hairs arising from the punctures. Thorax broader than long, convex, anteriorly emarginate, posteriorly broadly lobed; sides strongly rounded, coarsely punctured above, and clothed with suberect yellow hairs. Scutellum moderate, triangular, with rounded sides. Elytra convex, more finely punctured with very short, recumbent, yellow pubescence. Body beneath clothed with long yellowish-white hairs; abdomen with shorter pubescence. Legs slightly fimbriate with hair. Length .70—.85 inch.

Occurs rather abundantly at Visalia, California, whence specimens were sent me by Mr. S. W. Marple. They fly among the oak trees of that region and are attracted by light at night.

Genus related to *Hypotrichia* Lec., though without any similarity whatever of form. The former resembling *Tanyproctus* somewhat, while the present genus is almost a counterpart of certain species of *Plectris*, in form, color and pubescence. By the peculiar sculpture of the last joint of the maxillary palpi, these two genera seem to be related to the *Tanyproctini*, though in neither do we find the dilatation

of the tarsal joints of the male. The anterior claws of the front and middle tarsi of *Hypotrichia* have a broad tooth, free, except at base. The anterior claw of the posterior tarsi has a slight dilatation at base.

The tribes of Scarabæidæ, in the vicinity of the Sericoidini, have need of a thorough revision. The position of the last spiracle, whether in or out of the line of the suture between the penultimate dorsal and ventral segments, appears to be a character of some value, as also the presence of a groove leading backwards from the spiracle toward the last dorsal suture.

The genus is placed provisionally with *Hypotrichia* among the Sericoidini, with the hope that renewed observations on larger series of genera may afford a better clue to its true relationships.

#### COTALPA, Burm.

For a long time the only known species of this genus was ranked among the Areodæ, Kirby being the first to indicate generic differences. The typical species appear to have an extensive range, being found over nearly the whole region eastward of a line drawn midway between the Rocky Mountains and the Mississippi River. In 1852 Prof. Haldeman described a second species from Utah; lately Dr. Leconte has made known a third, from a point still farther westward, New Mexico, and while in San Francisco, during the first few days of my stay there, I was surprised at receiving a fourth species from the Southern Coast Range. Subsequently other specimens were collected near the base of the South-eastern Sierras, again in Owen's Valley, and finally along the mountainous region between Temescal and the Laguna grande, on the road towards Fort Yuma.

*C. ursina*, bluish-black; head and thorax coarsely and densely punctured; thorax convex, sides strongly rounded, narrower anteriorly, base broadly lobed, elytra broadly oval, brownish testaceous, coarsely punctured. Beneath bluish-black, tibiae paler. Length .95, ♂; .62, ♀, inch.

The clypeus is parabolic, slightly margined in front. The head and thorax are rather densely clothed with suberect yellowish hairs, the hairs of the elytra are much shorter, recumbent and more sparsely placed. Beneath the body is also densely clothed with long hairs, particularly on the sides of the metasternum. The elytra vary somewhat in color, among the specimens from different localities. Those from the maritime slope of California are brownish testaceous, those from the mountain regions of the south-eastern portion of the State are much lighter in color, while a unique from Owen's Valley is orange-red. The first and last regions furnished specimens with much more

pubescence. Those captured by myself near Temescal were almost entirely deprived of the hair on the thorax and elytra, and are much less densely and coarsely punctured. I can find no differences to warrant specific separation among my specimens, though the extremes differ greatly in size and in sculpture as above indicated.

The genus *Cotalpa* may be separated into two sections, according as the metasternum is produced or not between the middle coxæ.

Metasternum conical, prominent between the middle coxæ.

Thorax scarcely punctured.....*lanigera*, Linn.

Thorax coarsely punctured.....*puncticollis*, Lec.

Metasternum short, obtuse, not produced.

Thorax coarsely not confluent punctured; hairs

yellowish.....*ursina*, Horn.

Thorax coarsely and confluent punctured; hairs

grey.....*granicollis*, Hald.

In the above table it will be seen that two species have the metasternum prolonged forward, so as to be distinctly seen between the middle coxæ and even in front of them, this spine being at the same time in the plane of the rest of the metasternum and without any depression of its point. In the last two, however, this process is reduced to a mere tubercle below the plane of the metasternum, and is not at all prominent, and never projects beyond the coxæ. The species of the first group may be distinguished from those of the second by their greater convexity, more glossy appearance and less elytral punctuation, while from each other no other characters are needed than that given in the table. The epistoma of *puncticollis* is relatively much longer and more convex than *lanigera*. The two species of the second group resemble each other in form. The thorax of *granicollis* is, however, metallic-green and very coarsely and confluent punctured, and clothed with erect whitish or greyish-white hairs. In *ursina* the thorax is much more finely punctured and with the punctures distinct, the hairs are longer and yellowish; the color of the thorax is bluish-black.

#### ERRATUM.

Page 168, line 16, for "appear" read "appears."



## EXPLANATION OF PLATE III.

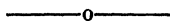


Fig. 1.—*Phæochrous Behrensi*, Horn. San Francisco, Cal.

Fig. 2.—*Acratus flavipennis*, Horn. Arizona.

Fig. 3.—*Lasiopus ferrugineus*, Lec. (Synopsis of the Melolonthidæ of U. S., Jour. Acad. 1856, p. 282.) The unguis of this insect are simple and the tarsi very much longer than the tibiæ. The anterior tibia is without spine. Antennæ nine-jointed, palpi slender. Clypeus rounded, concave and submarginate at apex. Its surface is moderately glossy and ferruginous in color, coarsely punctured and with sparsely placed short hairs, the margin is fringed and the under surface with longer hairs. Ringgold Barracks, Texas.

Fig. 4.—*Oncerus floralis*, Lec. (Loc. cit. p. 283.) As in the preceding species the anterior tibiæ are without spine, the tarsi long and the femora thickened. Clypeus flattened, parallel, and with a lateral incisure and transverse suture forming a double clypeus. The claws are deeply cleft as in *Acratus*. The head and thorax are shining black, the elytra brownish testaceous and sparsely clothed with short pale hairs. Vallecito, California.

Fig. 5.—*Hypotrichia spissipes*, Lec. (Class. Col. N. A., 137.)

Fig. 6.—*Plectrodes pubescens*, Horn. Visalia, Cal.

Fig. 7.—*Macropnus crassipes*, Horn. (Proc. Acad. 1866, 397.) Though not mentioned in the preceding Papers, I introduce this insect for the opportunity afforded of figuring it. A view of its upper surface hardly affords any difference of outline from the common *Areodæ*, except in being rather more suddenly broader. Honduras.

Fig. 8.—*Pseudomorpha Cronkhitei*, Horn. Owens' Valley, Cal.

